

APPENDIX

1. A method of generating a display comprising a plurality of pixels on a screen comprising:

providing at least a pair of specular light intensity functions, wherein each specular light intensity function is representative of the specular light reflected by a respective pixel at a different surface reflectance characteristic;

determining a specularity modulation value for a respective pixel by retrieving the specularity modulation value from a memory;

interpolating the specular light intensity functions using the specularity modulation value to obtain a composite specularity value; and

using said composite specularity value to modulate pixel color on said screen.

2. The method of claim 1 wherein the step of ~~[creating]~~ providing at least a pair of specular light intensity functions comprises ~~[creating]~~ providing a maximum specular light intensity function and a minimum specular light intensity function.

10. The method of claim 1 wherein the step of determining the specularity modulation value comprises retrieving the specularity modulation ~~[coordinate]~~ from a two-dimensional map contained in a texture memory.

19. A method of generating polygon surfaces in a rendering system for a display comprising a plurality of pixels, the method comprising:

generating a polygon surface represented by a plurality of vectors for each pixel in said plurality of pixels, the vectors including a light source vector, a surface normal vector and a view vector;

providing at least a pair of specular light intensity functions, wherein each specular light intensity function is representative of the specular

light reflected by a respective pixel at different surface reflectance characteristic;

determining a specularity modulation value for a respective pixel by retrieving the specularity modulation value from a memory;

interpolating the specular light intensity functions using the specularity modulation value to obtain a composite specularity value; and

using said composite specularity value to modulate pixel color on said screen.

40. A method of generating a display comprising a plurality of pixels on a screen comprising:

providing at least a pair of color intensity functions, wherein each color intensity function is representative of the color reflected by a respective pixel at a different surface reflectance characteristic;

determining a color modulation value for a respective pixel by retrieving the color modulation value from a memory;

interpolating the color intensity functions using the color modulation value to obtain a composite color value; and

using said composite color value to modulate pixel color on said screen.

53.[.] The method of claim 40 wherein the step of providing at least a pair of color intensity functions comprises specifying a specular exponent value for at least one of the functions.

58. A method of generating polygon surfaces in a rendering system for a display comprising a plurality of pixels, the method comprising:

generating a polygon surface represented by a plurality of vectors for each pixel in said plurality of pixels, the vectors including a light source vector, a surface normal vector and a view vector;

providing at least a pair of color intensity functions, wherein each color intensity function is representative of the specular light reflected by a respective pixel at different surface reflectance characteristic;

determining a color modulation value for a respective pixel by retrieving the color modulation value from a memory;

interpolating the color intensity functions using the color modulation value to obtain a composite color value; and

using said composite color value to modulate pixel color on said screen.

79. A method of generating polygon surfaces in a rendering system for a display comprising a plurality of pixels, the method comprising:

generating a polygon surface represented by a plurality of vectors for each pixel in said plurality of pixels, the vectors including a light source vector, a surface normal vector and a view vector;

in real time, using one or more values from a map to determine [determining] a reflectivity of the polygon surface for a respective pixel in the polygon;

using the determined reflectivity to calculate the specular reflection at the respective pixel in the polygon including calculating the specular reflection using two or more specular functions.